υ¹ PUPPIS, A PULSATING B3 Ve STAR

The variability of this star $\left(\text{HD57150}, \alpha_{1975} = 7^h17^m25^s \; \delta_{1975} = -36°41', m_v = 4.78, \text{S} = \text{B3 Ve}\right)$ which shows strong H emission was discovered by the author in 1970 at the ESO Observatory, where he made discrete photometric observations with the 6" Zeiss telescope on several early B-type stars, in a search for new β CMa varia-bles. In the publication (1) where the discovery was announced, the following statement was made. "It is possible that the suc-cessive cycles have a different amplitude and shape with a mean duration of the order of 6.5 hours, but this is hardly more than a guess".

Photometric observations with the 60" Boyden reflector, which were started in January and are still being continued, confirm the pre-sumption of the changing amplitude, but prove that the period must be doubled. They show that the star is indeed a pulsating variable with a period that changes between 12^h and 13^h. It seems difficult to attribute these changes of the period entirely to those phase shifts which result from the interference of two oscillations. The minimum amplitude observed up to now (6th February) is 0^m025 in V, the longest observed change in brightness is 0^m06 but the maximum amplitude may be higher. The amplitude in υ is 1.3 - 1.4 times the amplitude in V. Certain cycles seem to present singularities.

The beat period could not be determined yet because of breaks in the observations, due to bad weather.

With its unusual long period and its low luminosity the star vio-lates the P-L relation known to hold for the "classical" β CMa stars

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(1) Mededelingen v.d. Kon.Acad. v. Wetenschappen, Letteren en
    Schone Kunsten v. Belgie, XXXV, Nr.4, 1973

NOTE ON υ² PUPPIS

The variability of υ² Puppis $(HD57219$, $\alpha_{1975} = 7^h17^m45^s$, $\delta_{1975} =$
$= -36°42'$, $m_v = 5.10$, $S = B3V)$ has been announced in I.B.V.S.
No. 807 where the star was described as a β CMa star with a period
of ~3 hours, (amplitude of the light oscillations $0^m.02V$),it being
also the brighter component of a spectroscopic binary with a peri-
od close to twenty-four hours. Those were the conclusions from a
photometric observation campaign made with the 6" Zeiss reflector
of the ESO Observatory at La Silla.
Observations now going on at the Boyden Observatory confirm the
existence of the 3^h-oscillations, though their amplitude is small-
er than it was seen in Chile (presently $0^m.02$ in υ and a bit less
in V). But the 5-6 hour runs on the star show moreover each night
a gradual decrease of the star's brightness by $0^m.02$ in υ and almost
nothing in V. This is interpreted as the reflection effect in a
close binary. The difference in longitude between Bloemfontein and
La Silla $(6½^h)$ and the orbital period $(= 24^h)$ make it plausible
now to see in the sudden rise in brightness of the star observed
night after night at the same hour in La Silla, the end of an e-
clipse.

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